FIBER AND PROCESSING TESTS

SURVEY OF LEADING COTTON VARIETIES

CROP OF 1990

USDA

AGRICULTURAL MARKETING SERVICE

U.S. DEPARTMENT OF AGRICULTURE

COTTON DIVISION

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INTRODUCTION

This report contains information on the fiber properties and spinning performance of cotton samples representing leading varieties commercially grown in the United States. The results of fiber and spinning tests on these samples provide data for studies of the relationships between fiber properties, processing performance and product quality, in reference to specific cotton varieties.

SAMPLING PROCEDURES

For this survey, a total of twenty-four upland and two American Pima bales representing leading cotton varieties were purchased. In each case, the owner certified that the bale was produced from a specific variety.

One upland variety was selected from the Southeastern Area of the United States, four varieties from the South Central Area, four from the Southwestern Area and three from the Western Area. In addition, one American Pima variety was selected from the Western Area. Two bales were obtained for each of the thirteen selected varieties.

Several sets of samples were taken from each bale for various fiber tests. Each set was composed of five samples taken at random across the "fanhead" of the bale. This means that each fiber statistic in this report is the average of five readings. However, the classer's grade and staple are values assigned at the classing office and are based on only one determination.

A minimum of 150 pounds of cotton from each bale was processed for each spinning test.

PROCESSING

The 26 bales of cotton collected for this study were processed on modern textile processing equipment. The cotton was opened, blended and cleaned on Truetzchler equipment and carded on a Truetzchler Card at 70 pounds per hour. Drawing sliver was produced on a Reiter Breaker Drawing Frame (3 over 3) and a Saco Lowell Finisher Drawing Frame (3 over 4). Roving was produced on a Saco Lowell Long Draft Roving Frame (10 x 5, 1-Apron Type), and ring spun yarn was produced on a Saco Lowell Long Draft Spinning Frame (2-Apron Type). Rotor spun yarn was produced on a Schlafhorst Autocoro Spinning Frame.

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NOTE: Trade names are used solely to provide specific information. Mention of a trade name does not constitute a warranty or an endorsement of the product by the U.S. Department of Agriculture to the exclusion of other products not mentioned.

ACKNOWLEDGEMENT: Appreciation is expressed to C. K. Bragg and personnel of the Cotton Quality Research Station, ARS, U.S. Dept. of Agriculture, Clemson, SC for processing the cotton into yarn.

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Fiber Properties.

	DELTAPINE ACALA 90							
	SOUTHEAST		SOUTH CENTRAL		SOUTHWEST		FAR WEST	
	Georgia	Alabama	Louisiana	Louisiana	Texas (Abilene Area)	Texas (Waco Area)	Arizona	California (El Centro Area)
CLASSIFICATION								
Grade Code	31	31	41	31	31	31	31	31
Staple (32nd. in.)	36	35	36	35	35	34	36	35
HVI - MCI								
UHM (in)	1.08	1.10	1.10	1.12	1.08	1.08	1.06	1.10
Uniformity Index (%)	82.5	82.2	81.4	83.5	80.7	82.6	80.2	81.1
Strength (g/tex)	30.1	29.2	29.4	26.7	28.9	31.7	26.7	29.8
Elongation (%)	4.2	4.5	4.4	5.2	6.6	4.4	6.0	5.4
Micronaire (rdg)	4.7	4.5	4.2	4.5	4.2	4.3	4.6	5.0
Trash (% area)	0.18	0.25	0.72	0.34	0.23	0.15	0.25	0.15
Trash Grade	3	3	5	4	3	3	3	3
Color Rd (%)	73.3	75.7	71.7	74.8	77.2	78.6	73.3	76.6
Color +b (units)	9.5	9.4	8.7	8.7	8.6	10.1	8.3	8.5
STELOMETER								
1/8" - Gage Strength (g/tex) *	25.0	26.5	26.2	25.1	26.2	27.2	25.0	27.6
Elongation (%)	4.6	5.1	5.3	6.7	6.5	5.3	6.2	5.4
SUTER-WEBB LENGTH ARRAY								
UQL (in)	1.17	1.17	1.16	1.22	1.18	1.19	1.17	1.19
Mean Length (in)	0.96	0.92	0.93	1.01	0.94	0.96	0.92	0.94
CV (%)	29.7	34.3	32.3	29.0	31.8	30.4	34.3	34.5
Short Fiber Content (%)	8.1	12.2	10.5	8.2	10.5	8.5	12.4	12.4
IIC/SHIRLEY FMT								
Fineness (mtex)	186.0	176.8	158.4	189.2	171.2	183.0	174.4	174.0
Maturity Ratio	0.996	0.980	0.988	0.938	0.959	0.887	1.057	1.141
S. A. NON-LINT CONTENT								
Visible Waste (%)	0.8	1.2	1.2	1.2	1.1	1.5	1.0	1.5
Total Waste (%)	1.5	2.0	3.2	1.9	1.9	2.4	2.1	2.4
NEPS OF RAW COTTON								
APHIS (neps/gram)	202	272	272	298	372	334	275	254
Raw Stock Neps (neps/100 sq. in.)	15	15	16	17	24	23	18	15
SUGAR CONTENT (%)	0.12	0.23	0.15	0.26	0.26	0.36	0.23	0.27

* Stelometer results were adjusted to Pressley level.

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	DELTAPINE ACALA 90											
	SOUTHEAST						SOUTH CENTRAL					
	Georgia			Alabama			Louisiana			Louisiana		
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	4.60	4.60	4.60	6.44	6.44	6.44	6.13	6.13	6.13	6.60	6.60	6.60
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	10.2	22.2	29.6	10.4	22.1	30.3	10.2	22.0	29.8	10.1	22.0	30.2
CV% of Yarn Number	0.7	0.7	1.1	1.0	0.6	6.0	2.6	0.8	2.6	0.7	1.1	1.6
Count-Strength-Product	2576	2197	2018	2334	2038	1845	2446	2152	1911	2264	1980	1839
CV% of CSP	2.6	3.3	3.3	5.1	4.9	9.5	6.7	2.8	5.1	1.9	3.2	3.7
Elongation (%)	6.2	5.9	5.4	5.5	5.1	4.6	6.0	6.5	5.2	6.8	6.8	5.7
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	133	129	118	133	189	114	138	121	109	131	101	107
CV% of Tenacity	8.1	11.2	11.1	7.4	10.3	14.2	10.1	9.8	14.3	6.0	11.4	11.2
Force (N)	7.87	3.47	2.33	7.84	3.10	2.25	8.12	3.26	2.15	7.71	2.71	2.11
Elongation (%)	6.42	5.35	6.76	6.36	5.22	5.49	6.57	5.41	4.80	7.42	5.71	6.08
CV% of Elongation	8.8	11.8	9.2	10.0	9.4	13.9	9.7	10.4	13.8	8.5	8.5	7.9
Specific Work to Rupture (cm*N)	2.00	0.79	0.64	1.99	0.71	0.53	2.11	0.75	0.47	2.29	0.62	0.56
CV% of Specific Work to Rupture	12.5	16.9	15.7	11.9	14.2	19.7	13.9	15.9	20.3	11.3	14.6	16.5
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	11.7	13.8	15.8	12.5	14.5	15.9	12.1	14.2	15.4	13.1	15.6	16.6
Thick Places/1,000 yd	9	24	99	10	46	86	7	28	56	24	87	142
Thin Places/1,000 yd	1	11	54	0	12	57	0	7	49	0	28	104
Neps/1,000 yd	4	1	7	0	1	8	0	1	16	5	6	58
YARN APPEARANCE INDEX	120	120	130	120	120	120	110	110	110	120	110	120

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	DELTAPINE ACALA 90											
	SOUTHEAST						SOUTH CENTRAL					
	Georgia			Alabama			Louisiana			Louisiana		
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	4.60	4.60	4.60	6.44	6.44	6.44	6.13	6.13	6.13	6.60	6.60	6.60
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	21.6	35.1	49.8	21.6	35.4	49.7	21.2	35.4	51.0	21.8	36.0	50.2
CV% of Yarn Number	1.3	1.2	1.8	1.2	1.3	1.7	0.9	1.9	1.5	1.7	1.6	2.0
Count-Strength-Product	2378	2045	1887	2219	1984	1794	2088	2061	1752	2167	2083	1785
CV% of CSP	3.8	5.9	7.4	3.4	5.4	5.7	3.3	4.5	7.0	3.4	4.4	5.8
Elongation (%)	5.1	4.0	4.3	4.5	4.0	4.0	4.5	4.0	4.3	5.6	5.3	5.0
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	161	138	120	134	141	108	156	131	108	146	128	113
CV% of Tenacity	10.0	20.3	17.1	13.0	16.0	18.9	13.1	17.9	18.6	10.4	15.1	15.9
Force (N)	4.33	2.26	1.42	3.59	2.31	1.27	4.20	2.15	1.28	3.93	2.10	1.33
Elongation (%)	5.48	4.75	4.54	5.07	4.97	4.74	6.48	5.15	4.61	6.87	5.99	5.32
CV% of Elongation	12.1	18.4	12.7	14.2	15.7	13.3	14.8	16.5	17.6	13.2	10.3	12.4
Specific Work to Rupture (cm*N)	0.95	0.47	0.30	0.78	0.50	0.25	1.00	0.48	0.26	1.06	0.53	0.31
CV% of Specific Work to Rupture	13.7	26.5	22.7	19.4	22.6	25.1	17.6	24.0	26.2	15.5	20.6	22.6
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	21.4	26.3	29.5	24.3	26.9	31.1	23.1	27.8	32.6	21.0	25.5	29.4
Thick Places/1,000 yd	1357	2510	3515	2126	2843	3958	1707	3132	4367	1182	2459	3442
Thin Places/1,000 yd	335	1535	2419	902	1616	2978	573	1703	3690	317	1201	2416
Neps/1,000 yd	67	603	1345	160	731	1490	102	416	1741	100	674	1151
YARN APPEARANCE INDEX	100	70	60	90	80	60	80	70	60	90	70	70

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	DELTAPINE ACALA 90											
	SOUTHWEST						FAR WEST					
	Texas						Arizona			California		
	(Abilene Area)			(Waco Area)						(El Centro Area)		
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	5.77	5.77	5.77	6.04	6.04	6.04	6.43	6.43	6.43	6.77	6.77	6.77
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	10.1	21.9	29.8	10.1	22.1	29.9	10.3	22.1	30.1	10.2	22.1	30.2
CV% of Yarn Number	0.8	0.8	1.2	2.0	2.6	1.1	2.6	0.7	0.8	0.9	0.7	1.0
Count-Strength-Product	2521	2191	2015	2642	2282	2096	2197	1868	1619	2369	1959	1735
CV% of CSP	1.7	3.2	3.7	3.0	4.1	3.1	2.8	4.4	4.3	3.0	3.3	3.8
Elongation (%)	7.0	6.4	6.8	6.4	5.8	5.3	6.2	5.6	5.1	6.5	5.3	4.5
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	141	126	120	144	131	120	143	108	98	133	117	75
CV% of Tenacity	9.0	10.6	9.8	13.6	13.7	12.8	20.2	10.6	11.0	9.0	10.6	14.9
Force (N)	8.33	3.38	2.35	8.50	3.50	2.40	8.46	2.91	1.93	7.87	3.13	2.02
Elongation (%)	7.56	6.10	4.86	6.10	5.70	5.20	6.25	5.35	4.29	5.76	4.59	4.32
CV% of Elongation	8.6	10.2	10.7	8.0	10.0	14.2	13.0	11.6	13.1	8.7	9.8	16.0
Specific Work to Rupture (cm*N)	2.48	0.90	0.52	2.10	0.80	0.50	2.15	0.68	0.41	1.87	0.67	0.41
CV% of Specific Work to Rupture	13.2	15.5	14.1	17.3	18.3	20.0	22.3	17.2	17.5	14.1	15.0	20.0
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	11.7	13.8	16.5	13.0	14.4	15.6	13.1	15.0	16.5	13.0	14.8	15.7
Thick Places/1,000 yd	5	15	140	14	41	61	14	55	122	1	16	46
Thin Places/1,000 yd	0	7	90	1	18	44	0	21	96	14	46	68
Neps/1,000 yd	0	2	684	1	7	21	0	4	35	0	3	16
YARN APPEARANCE INDEX	110	120	120	130	120	120	110	110	120	110	120	120

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	DELTAPINE ACALA 90											
	SOUTHWEST						FAR WEST					
	Texas						Arizona			California		
	(Abilene Area)			(Waco Area)						(El Centro Area)		
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	5.77	5.77	5.77	6.04	6.04	6.04	6.43	6.43	6.43	6.77	6.77	6.77
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	21.5	35.0	49.5	20.8	36.0	49.2	21.3	35.9	50.7	22.0	35.7	49.3
CV% of Yarn Number	1.0	1.6	1.5	1.2	1.5	3.1	1.2	2.0	2.0	1.1	1.4	1.2
Count-Strength-Product	2247	2149	1894	2496	2307	2132	2008	1890	1634	2193	1959	1722
CV% of CSP	4.3	5.3	5.3	4.6	3.9	7.7	3.6	4.5	10.2	4.0	5.9	5.7
Elongation (%)	5.4	5.1	5.1	5.0	4.4	4.6	5.0	4.5	4.5	4.5	3.8	4.3
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	151	154	399	180	126	140	142	115	109	144	121	130
CV% of Tenacity	13.9	28.2	25.1	11.0	15.9	16.6	12.5	16.5	20.1	11.7	23.6	36.0
Force (N)	4.05	2.52	4.71	4.83	2.10	1.60	3.80	1.88	1.29	3.85	1.98	1.54
Elongation (%)	6.77	5.97	6.19	6.40	6.10	5.60	5.69	5.16	4.92	4.67	4.07	4.67
CV% of Elongation	16.9	12.8	15.6	12.4	10.8	11.3	13.9	11.8	13.5	13.3	20.3	17.5
Specific Work to Rupture (cm*N)	1.08	0.62	1.10	1.20	0.50	0.40	0.91	0.41	0.27	0.79	0.37	0.31
CV% of Specific Work to Rupture	20.6	33.7	25.9	16.2	22.0	21.3	17.3	21.3	25.4	17.2	33.2	43.7
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	23.7	27.4	30.0	21.4	28.1	28.6	24.9	29.0	32.3	24.4	28.7	31.8
Thick Places/1,000 yd	1794	2797	3676	1277	3158	3325	2275	3338	4318	863	2054	3013
Thin Places/1,000 yd	842	1691	2693	337	1978	2061	993	2271	3467	2086	3232	4130
Neps/1,000 yd	319	668	1258	127	1140	1307	200	1002	1894	183	984	2035
YARN APPEARANCE INDEX	90	100	60	90	80	60	80	80	60	90	80	60

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Fiber Properties.

	DELTAPINE 50				DELTAPINE 20		DES 119	
	SOUTH CENTRAL		SOUTHWEST Texas		SOUTH CENTRAL		SOUTH CENTRAL	
	Mississippi	Tennessee	(Harlingen Area)	(Corpus Christi Area)	Mississippi	Tennessee	Mississippi	Louisiana
CLASSIFICATION								
Grade Code	41	41	41	41	41	31	41	41
Staple (32nd. in.)	35	36	35	34	35	34	36	36
HVI - MCI								
UHM (in)	1.12	1.13	1.10	1.04	1.07	1.07	1.12	1.11
Uniformity Index (%)	81.6	82.5	83.3	81.5	81.8	83.2	82.3	82.6
Strength (g/tex)	24.8	26.2	28.1	25.1	25.2	25.3	25.8	26.1
Elongation (%)	5.2	5.4	5.1	5.3	5.5	5.9	5.7	5.4
Micronaire (rdg)	4.2	4.3	4.6	4.6	4.6	4.7	4.4	4.0
Trash (% area)	0.44	0.23	0.26	0.62	0.18	0.22	0.40	0.36
Trash Grade	4	3	3	5	3	3	4	4
Color Rd (%)	72.4	73.7	75.0	70.7	69.2	77.0	74.4	71.3
Color +b (units)	8.7	9.1	9.8	8.8	9.0	9.1	9.6	9.0
STELOMETER								
1/8" - Gage Strength (g/tex) *	22.5	23.7	25.2	22.0	22.8	21.0	24.9	24.4
Elongation (%)	5.9	6.3	6.0	5.9	6.2	6.4	6.3	6.1
SUTER-WEBB LENGTH ARRAY								
UQL (in)	1.24	1.24	1.20	1.12	1.16	1.15	1.26	1.21
Mean Length (in)	0.98	0.99	0.99	0.90	0.94	0.94	1.01	0.97
CV (%)	33.4	32.2	27.7	31.0	30.7	30.0	32.7	31.6
Short Fiber Content (%)	11.1	10.3	8.0	10.9	10.3	9.6	9.9	10.1
IIC/SHIRLEY FMT								
Fineness (mtex)	181.2	181.4	190.2	184.8	185.4	193.6	178.8	166.6
Maturity Ratio	0.863	0.920	0.958	0.964	0.968	0.968	0.915	0.886
S. A. NON-LINT CONTENT								
Visible Waste (%)	1.2	1.3	1.2	1.4	1.1	0.8	1.5	1.6
Total Waste (%)	2.0	2.2	1.9	2.2	2.2	1.4	2.4	2.5
NEPS OF RAW COTTON								
APHIS (neps/gram)	330	315	244	320	274	299	366	317
Raw Stock Neps (neps/100 sq. in.)	15	17	11	18	13	15	19	19
SUGAR CONTENT (%)	0.27	0.21	0.30	0.16	0.28	0.27	0.27	0.23

* Stelometer results were adjusted to Pressley level.

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	DELTAPINE 50											
	SOUTH CENTRAL						SOUTHWEST					
	Mississippi			Tennessee			Texas					
							(Harlingen Area)			(Corpus Christi Area)		
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	6.13	6.13	6.13	5.41	5.41	5.41	5.47	5.47	5.47	6.47	6.47	6.47
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	10.1	22.0	29.9	10.2	22.0	30.0	10.1	22.0	29.7	10.2	22.1	29.6
CV% of Yarn Number	0.8	0.8	1.0	2.0	1.0	6.0	2.5	3.5	1.5	1.2	1.0	1.0
Count-Strength-Product	2175	1859	1702	2152	1823	1683	2407	2018	1866	2174	1804	1729
CV% of CSP	4.7	2.4	3.0	2.4	2.5	9.0	1.9	6.1	3.1	3.0	3.9	3.8
Elongation (%)	6.7	6.5	5.7	6.5	6.0	5.7	6.3	5.5	4.6	6.0	4.8	4.0
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	124	110	103	120	104	102	137	119	106	124	108	105
CV% of Tenacity	6.9	10.2	11.2	9.3	10.3	12.1	7.9	13.2	17.0	8.4	9.4	12.9
Force (N)	7.30	2.95	2.03	7.11	2.79	2.00	8.11	3.20	2.08	7.33	2.9	2.07
Elongation (%)	7.19	5.84	6.02	7.77	6.19	5.93	6.74	5.98	5.61	7.07	5.72	5.21
CV% of Elongation	17.1	11.3	11.8	14.5	9.3	11.6	10.7	10.2	11.9	12.7	12.3	12.7
Specific Work to Rupture (cm*N)	2.14	0.76	0.54	2.18	0.74	0.52	2.28	0.79	0.49	2.09	0.72	0.48
CV% of Specific Work to Rupture	14.2	16.6	17.7	16.7	16.8	17.3	13.5	15.9	24.5	13.1	16.2	19.2
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	12.6	14.4	16.1	12.9	15.1	16.2	13.1	14.8	16.2	13.6	14.6	16.5
Thick Places/1,000 yd	16	49	93	19	91	161	16	59	79	22	32	100
Thin Places/1,000 yd	0	14	64	0	10	71	1	16	67	2	18	61
Neps/1,000 yd	0	5	31	2	6	39	0	5	33	0	1	21
YARN APPEARANCE INDEX	130	120	120	130	120	120	130	110	120	120	120	120

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	DELTAPINE 50											
	SOUTH CENTRAL						SOUTHWEST					
	Mississippi			Tennessee			Texas					
							(Harlingen Area)			(Corpus Christi Area)		
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	6.13	6.13	6.13	5.41	5.41	5.41	5.47	5.47	5.47	6.47	6.47	6.47
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	21.4	35.3	49.8	21.6	35.5	49.7	21.7	35.5	50.7	21.3	35.2	49.6
CV% of Yarn Number	1.4	2.4	1.5	1.1	1.4	2.3	1.1	1.2	1.6	0.8	1.3	1.2
Count-Strength-Product	1995	1803	1575	2029	1835	1664	2144	2012	1726	1877	1590	1310
CV% of CSP	4.7	5.9	6.2	4.1	4.4	5.8	4.0	6.7	6.9	3.9	4.1	4.9
Elongation (%)	5.1	4.4	4.5	5.5	5.0	4.9	5.3	4.5	4.3	5.3	4.0	4.2
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	139	124	96	133	125	108	149	131	105	132	94	96
CV% of Tenacity	13.8	16.5	18.6	11.8	15.3	20.3	15.2	15.0	29.9	13.6	21.8	18.4
Force (N)	3.72	2.04	1.13	3.58	2.05	1.28	4.00	2.16	1.24	3.55	1.54	1.13
Elongation (%)	6.40	5.68	5.03	6.75	6.29	5.78	6.31	5.73	4.84	6.29	4.99	5.39
CV% of Elongation	19.3	15.3	14.9	13.6	13.8	14.2	13.8	9.9	24.6	14.3	17.7	11.85
Specific Work to Rupture (cm*N)	1.00	0.49	0.25	0.96	0.52	0.31	1.00	0.50	0.27	0.90	0.32	0.26
CV% of Specific Work to Rupture	20.5	24.9	26.1	18.5	21.8	26.2	22.7	21.6	36.3	20.2	28.4	24.38
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	23.4	27.4	31.4	22.6	27.1	28.1	20.8	26.0	29.1	24.5	30.0	34.1
Thick Places/1,000 yd	1892	3011	4004	1679	2893	3213	1224	2556	3371	2136	3526	4691
Thin Places/1,000 yd	691	1639	2980	532	1442	2024	279	1373	2285	900	2682	4470
Neps/1,000 yd	125	473	1578	179	610	1087	125	677	1172	162	963	1714
YARN APPEARANCE INDEX	100	80	60	90	80	70	110	100	70	90	70	60

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	DELTAPINE 20						DES 119					
	SOUTH CENTRAL						SOUTH CENTRAL					
	Mississippi			Tennessee			Mississippi			Louisiana		
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	6.67	6.67	6.67	5.56	5.56	5.56	6.60	6.60	6.60	6.78	6.78	6.78
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	10.1	22.0	29.7	10.5	22.2	30.3	10.1	21.9	29.8	10.1	22.0	29.7
CV% of Yarn Number	2.1	1.8	0.7	2.7	0.7	1.3	2.2	0.9	0.8	1.4	0.6	1.0
Count-Strength-Product	2125	1777	1583	2099	1799	1582	2270	1875	1684	2336	1986	1833
CV% of CSP	3.3	3.5	3.3	4.2	3.2	3.3	2.9	3.5	3.5	2.0	2.3	3.9
Elongation (%)	6.4	5.0	4.9	6.5	7.2	5.7	7.5	6.5	6.3	6.5	6.5	6.0
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	118	107	100	122	102	99	125	109	105	134	117	108
CV% of Tenacity	7.3	11.7	10.8	7.4	8.7	17.4	7.4	8.7	10.3	9.2	11.2	10.2
Force (N)	6.96	2.86	1.97	7.19	2.74	1.94	7.41	2.94	2.06	7.92	3.13	2.12
Elongation (%)	6.70	5.91	5.54	7.26	6.05	5.22	7.31	6.38	5.72	7.83	6.26	5.97
CV% of Elongation	16.2	11.2	9.9	8.8	10.3	14.2	7.7	9.7	14.3	7.1	10.5	13.4
Specific Work to Rupture (cm*N)	1.95	0.73	0.48	2.18	0.71	0.45	2.19	0.82	0.54	2.43	0.83	0.55
CV% of Specific Work to Rupture	15.6	15.9	15.6	14.3	14.3	20.4	13.0	13.9	17.9	13.2	16.6	17.7
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	13.1	15.5	17.1	12.9	15.2	16.0	12.4	15.5	15.9	12.5	14.1	15.5
Thick Places/1,000 yd	17	116	142	9	59	80	16	90	76	22	38	77
Thin Places/1,000 yd	0	14	128	5	28	59	0	26	73	0	9	47
Neps/1,000 yd	0	5	90	0	0	39	6	10	31	10	2	20
YARN APPEARANCE INDEX	120	110	120	130	110	120	110	110	110	100	110	120

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	DELTAPINE 20						DES 119					
	SOUTH CENTRAL						SOUTH CENTRAL					
	Mississippi			Tennessee			Mississippi			Louisiana		
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	6.67	6.67	6.67	5.56	5.56	5.56	6.60	6.60	6.60	6.78	6.78	6.78
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	21.1	35.9	49.1	21.6	35.8	49.2	21.7	35.1	48.9	21.9	35.9	48.7
CV% of Yarn Number	1.0	2.9	2.5	1.2	1.3	1.8	0.9	1.5	1.8	1.4	1.3	1.9
Count-Strength-Product	1846	1620	1375	1837	1676	1507	2230	1865	1723	2226	2036	1719
CV% of CSP	4.4	6.1	8.0	4.3	5.1	7.3	3.8	4.9	6.0	5.3	3.6	5.2
Elongation (%)	4.4	3.8	4.3	5.1	4.5	5.2	5.9	5.0	5.3	5.6	4.9	5.0
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	118	88	92	122	109	97	134	122	73	144	129	126
CV% of Tenacity	16.0	23.3	22.9	13.2	15.4	21.6	13.0	13.8	13.4	10.9	13.5	15.4
Force (N)	3.17	1.43	1.08	3.26	1.79	1.14	3.61	2.00	1.95	3.88	2.12	1.48
Elongation (%)	5.91	5.24	5.29	6.58	5.47	5.56	6.57	5.63	5.43	5.90	5.96	5.83
CV% of Elongation	17.5	17.4	16.7	13.7	12.4	13.9	19.5	14.2	9.4	24.7	19.2	13.6
Specific Work to Rupture (cm*N)	0.72	0.64	0.24	0.85	0.44	0.28	0.97	0.49	0.43	1.00	0.51	0.37
CV% of Specific Work to Rupture	24.4	90.2	30.1	19.7	21.6	28.7	21.2	19.5	16.8	23.1	21.8	22.1
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	23.9	29.4	32.1	23.8	29.1	32.3	22.3	27.0	31.0	22.1	25.4	29.5
Thick Places/1,000 yd	2009	3483	4097	1959	3393	4227	1588	2758	3879	1401	2439	3494
Thin Places/1,000 yd	785	2610	3383	877	2616	3769	490	1667	2881	399	1207	2394
Neps/1,000 yd	141	1075	1577	132	562	1538	184	687	1807	141	568	1387
YARN APPEARANCE INDEX	90	80	60	90	70	60	90	70	70	100	70	60

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Fiber Properties.

	PAYMASTER 145		PAYMASTER HS 26		ACALA SJ-2		GERMAIN'S GC-510	
	SOUTHWEST		SOUTHWEST		FAR WEST		FAR WEST	
	Texas	Oklahoma	Texas		California		California	
	(Lubbock Area)		(Lubbock Area)	(Lamesa Area)	San Joaquin Valley		San Joaquin Valley	
CLASSIFICATION								
Grade Code	41	41	31	31	31	31	31	31
Staple (32nd. in.)	32	33	32	33	36	36	37	36
HVI - MCI								
UHM (in)	0.99	0.99	1.00	1.03	1.12	1.10	1.15	1.13
Uniformity Index (%)	79.1	79.8	81.1	81.2	81.7	82.2	83.9	82.9
Strength (g/tex)	23.8	23.4	27.8	27.7	29.8	30.8	32.4	29.2
Elongation (%)	6.8	6.3	8.3	7.9	5.7	5.5	6.0	6.1
Micronaire (rdg)	3.5	4.1	4.3	4.3	4.3	4.6	4.4	4.3
Trash (% area)	0.35	0.53	0.38	0.60	0.18	0.10	0.42	0.24
Trash Grade	4	5	4	5	3	3	4	3
Color Rd (%)	76.4	73.7	77.5	76.2	77.8	79.8	79.4	79.2
Color +b (units)	8.2	8.6	8.3	9.3	8.9	9.1	8.5	8.8
STELOMETER								
1/8" - Gage Strength (g/tex) *	22.1	22.4	25.7	25.5	27.1	27.9	31.4	29.0
Elongation (%)	6.5	6.0	7.7	7.5	6.0	5.9	6.0	6.2
SUTER-WEBB LENGTH ARRAY								
UQL (in)	1.08	1.06	1.09	1.14	1.23	1.26	1.28	1.23
Mean Length (in)	0.96	0.84	0.90	0.94	1.01	1.03	1.08	1.03
CV (%)	32.7	32.3	28.1	29.5	30.5	29.8	26.2	27.5
Short Fiber Content (%)	13.1	12.4	8.0	9.2	8.4	8.1	5.6	6.7
IIC/SHIRLEY FMT								
Fineness (mtex)	161.2	169.0	188.8	180.2	194.0	167.2	163.4	152.8
Maturity Ratio	0.808	.0.948	0.899	0.955	0.858	1.077	1.022	1.091
S. A. NON-LINT CONTENT								
Visible Waste (%)	2.7	1.7	1.9	3 1	1.4	0.9	2.1	1.0
Total Waste (%)	3.8	2.4	2.6	3.8	2.6	1.6	2.6	1.1
NEPS OF RAW COTTON								
APHIS (neps/gram)	390	430	319	397	331	198	255	278
Raw Stock Neps (neps/100 sq. in.)	25	25	16	21	25	16	21	22
SUGAR CONTENT (%)	0.50	0.25	0.34	0.45	0.46	0.44	0.40	0.42

* Stelometer results were adjusted to Pressley level.

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	PAYMASTER 145						PAYMASTER HS 26					
	SOUTHWEST						SOUTHWEST					
	Texas (Lubbock Area)			Oklahoma			Texas (Lubbock Area)			Texas (Lamesa Area)		
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	9.36	9.36	9.36	6.77	6.77	6.77	6.45	6.45	6.45	8.51	8.51	8.51
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	10.1	22.0	30.2	10.1	22.3	30.0	10.2	22.8	30.3	10.1	22.1	30.2
CV% of Yarn Number	0.7	0.8	1.4	2.5	2.4	1.1	0.7	0.9	1.4	0.7	0.9	0.8
Count-Strength-Product	2108	1802	1654	2142	1847	1697	2367	1975	1896	2351	2025	1824
CV% of CSP	2.8	3.0	4.7	3.3	5.4	3.4	3.2	3.0	2.8	3.4	2.4	3.9
Elongation (%)	7.0	6.1	5.4	6.5	5.1	5.9	7.3	6.8	6.6	7.6	6.3	6.1
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	115	109	96	122	107	98	136	114	107	133	127	164
CV% of Tenacity	8.6	10.7	12.9	8.5	11.3	12.1	8.3	10.2	14.2	9.0	36.0	10.0
Force (N)	6.81	2.93	1.88	7.19	2.88	1.93	8.02	3.06	2.11	7.84	3.41	3.23
Elongation (%)	6.56	6.24	5.71	6.48	5.64	4.82	7.63	6.47	6.24	7.68	6.47	5.49
CV% of Elongation	7.9	8.2	10.3	7.9	10.0	15.5	7.1	12.0	10.0	7.7	9.4	8.1
Specific Work to Rupture (cm*N)	1.87	0.78	0.48	1.89	0.70	0.43	2.52	0.85	0.57	2.41	0.95	0.77
CV% of Specific Work to Rupture	13.3	15.1	18.8	13.5	17.1	19.5	13.0	17.3	20.3	14.6	36.6	15.0
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	12.4	15.0	16.2	12.4	15.2	16.3	12.4	15.1	16.7	12.9	14.5	16.9
Thick Places/1,000 yd	11	70	111	7	91	94	8	68	109	17	36	131
Thin Places/1,000 yd	0	11	68	1	12	56	0	14	126	1	23	131
Neps/1,000 yd	2	3	39	0	6	28	1	2	39	2	4	93
YARN APPEARANCE INDEX	120	120	110	120	110	120	110	120	120	110	110	120

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	PAYMASTER 145						PAYMASTER HS 26					
	SOUTHWEST						SOUTHWEST					
	Texas (Lubbock Area)			Oklahoma			Texas (Lubbock Area)			Texas (Lamesa Area)		
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	9.36	9.36	9.36	6.77	6.77	6.77	6.45	6.45	6.45	8.51	8.51	8.51
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	21.7	35.1	49.1	21.5	34.9	49.3	21.3	34.4	49.8	22.0	36.3	49.1
CV% of Yarn Number	1.8	1.6	1.5	1.8	1.1	1.7	1.1	1.4	1.9	1.1	1.9	1.8
Count-Strength-Product	1774	1584	1329	1881	1739	1500	2255	1944	1800	1970	1932	1871
CV% of CSP	6.1	7.3	7.4	4.0	6.7	6.4	4.4	5.1	5.4	3.6	5.4	5.0
Elongation (%)	4.9	4.7	5.2	4.9	4.8	4.8	6.4	5.4	5.4	5.5	5.1	5.4
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	137	107	116	128	117	99	140	137	112	142	127	110
CV% of Tenacity	25.1	15.1	16.4	14.5	16.3	19.8	11.6	14.7	19.1	13.7	14.4	18.1
Force (N)	2.24	1.75	1.37	3.43	1.92	1.17	3.75	2.24	1.32	3.80	2.09	1.30
Elongation (%)	5.65	5.50	5.84	5.24	5.38	4.82	7.29	6.51	5.93	6.72	5.75	5.18
CV% of Elongation	15.6	13.6	13.6	18.7	16.8	23.1	14.0	13.5	12.7	18.6	17.2	16.1
Specific Work to Rupture (cm*N)	0.54	0.43	0.34	0.77	0.43	0.24	1.05	0.59	0.34	1.05	0.52	0.31
CV% of Specific Work to Rupture	28.9	21.0	24.1	22.2	24.2	31.1	19.3	21.8	26.5	21.9	23.0	26.3
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	25.1	30.0	34.4	23.7	28.8	32.5	20.6	25.9	29.0	22.0	26 5	29.2
Thick Places/1,000 yd	2232	3650	4688	1839	3186	4364	1067	2380	3283	1413	2610	3430
Thin Places/1,000 yd	1307	3000	4877	828	2449	3895	325	1427	2407	445	1536	2300
Neps/1,000 yd	119	905	1751	99	726	1862	31	381	1036	186	905	1584
YARN APPEARANCE INDEX	70	70	60	90	90	60	100	80	70	90	90	60

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Yarn Properties for Carded, **ROTOR SPUN YARN.**

	ACALA SJ-2						GERMAIN'S GC-510					
	FAR WEST						FAR WEST					
	California						California					
	San Joaquin Valley						San Joaquin Valley					
	10s	22s	30s	10s	22s	30s	10s	22s	30s	10s	22s	30s
OPENING & CARDING WASTE (%)	5.88	5.88	5.88	4.75	4.75	4.75	5.41	5.41	5.41	4.81	4.81	4.81
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	10.2	22.2	30.1	10.2	22.0	30.0	10.3	22.2	30.2	10.1	22.1	30.1
CV% of Yarn Number	2.8	0.9	1.2	1.7	0.7	2.0	2.6	0.9	0.9	2.6	0.6	1.0
Count-Strength-Product	2501	2189	2013	2665	2342	2143	2898	2669	2415	2854	2538	2350
CV% of CSP	2.8	2.8	3.1	2.9	2.7	4.0	5.4	2.4	4.2	2.1	2.0	3.5
Elongation (%)	6.9	5.9	5.5	6.5	5.9	5.5	6.5	5.8	5.2	6.5	5.9	6.0
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	139	83	117	150	134	125	167	147	137	154	148	153
CV% of Tenacity	8.3	18.2	11.5	7.9	10.2	10.6	8.3	8.0	12.7	7.3	8.9	10.8
Force (N)	8.19	2.22	2.30	8.84	3.60	2.45	9.88	3.96	2.69	9.08	3.98	3.01
Elongation (%)	6.70	6.42	5.38	6.29	5.40	5.01	6.78	5.58	5.36	6.23	6.08	6.06
CV% of Elongation	7.4	9.9	9.7	8.6	8.2	14.5	9.9	7.9	10.1	8.3	9.0	14.9
Specific Work to Rupture (cm*N)	2.14	0.61	0.52	2.16	0.81	0.52	2.49	0.95	0.61	2.20	0.95	0.78
CV% of Specific Work to Rupture	13.9	23.5	16.7	13.2	14.0	15.6	13.1	11.5	16.3	11.7	13.5	18.6
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	12.4	14.7	16.3	12.3	14.3	15.9	12.4	14.2	14.8	11.9	13.8	15.4
Thick Places/1,000 yd	8	46	102	9	34	81	10	46	46	9	35	63
Thin Places/1,000 yd	1	29	100	0	24	51	0	8	46	0	6	29
Neps/1,000 yd	0	75	39	0	3	9	0	10	12	5	5	177
YARN APPEARANCE INDEX	120	120	110	130	130	110	120	110	110	120	120	120

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Yarn Properties for Carded, **RING SPUN YARN.**

	ACALA SJ-2						GERMAIN'S GC-510					
	FAR WEST						FAR WEST					
	California						California					
	San Joaquin Valley						San Joaquin Valley					
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	5.88	5.88	5.88	4.75	4.75	4.75	5.41	5.41	5.41	4.81	4.81	4.81
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	21.3	36.1	49.2	21.9	36.3	51.2	20.9	36.8	50.3	21.7	35.3	49.6
CV% of Yarn Number	1.1	1.7	1.9	1.3	1.3	1.7	1.1	1.6	1.4	1.3	1.3	1.4
Count-Strength-Product	2427	2243	2133	2698	2448	2305	3129	3096	2963	2992	2931	2839
CV% of CSP	5.9	5.4	5.1	4.1	5.0	7.7	3.1	4.5	5.1	5.2	4.7	4.5
Elongation (%)	5.4	4.6	5.2	4.8	4.5	4.8	5.6	4.5	5.0	5.5	5.0	5.0
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	164	141	132	177	158	137	206	175	162	54	176	162
CV% of Tenacity	11.7	15.9	16.35	12.8	13.8	17.6	11.4	12.9	15.8	17.0	13.7	14.9
Force (N)	4.39	2.32	1.56	4.76	2.60	1.61	5.54	2.87	1.91	1.46	2.88	1.91
Elongation (%)	5.84	5.09	5.22	5.99	5.02	5.02	6.05	5.34	5.22	4.65	5.54	5.00
CV% of Elongation	12.7	16.3	13.8	12.0	14.2	11.2	15.5	13.1	11.7	14.9	11.8	11.0
Specific Work to Rupture (cm*N)	1.02	0.49	0.35	1.09	0.53	0.33	1.29	0.64	0.41	0.31	0.63	0.39
CV% of Specific Work to Rupture	16.0	23.3	21.8	17.6	20.1	22.0	17.7	17.3	18.9	23.6	17.3	18.4
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	24.6	28.9	26.7	20.0	24.6	27.5	16.7	22.4	23.3	18.5	22.5	25.0
Thick Places/1,000 yd	1947	3288	2714	931	2061	2919	321	1404	1795	617	1562	2249
Thin Places/1,000 yd	1635	1900	1383	199	851	1446	34	500	468	81	468	871
Neps/1,000 yd	354	1634	1146	79	548	1164	142	614	980	138	627	925
YARN APPEARANCE INDEX	80	90	60	110	90	70	110	100	70	100	120	70

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Yarn Properties for Combed, **RING SPUN YARN.**

	ACALA SJ-2						GERMAIN'S GC-510					
	FAR WEST						FAR WEST					
	California						California					
	San Joaquin Valley						San Joaquin Valley					
	22s	36s	50s	22s	36s	50s	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%)	5.56	5.56	5.56	4.59	4.59	4.59	5.17	5.17	5.17	4.39	4.39	4.39
COMBING WASTE(%):	25.96	25.96	25.96	24.56	24.56	24.56	15.35	15.35	15.35	20.29	20.29	20.29
YARN SKEIN STRENGTH TEST:												
Yarn Number (Ne)	21.7	35.3	49.7	23.1	35.5	50.1	21.6	36.6	49.5	21.1	36.5	49.9
CV% of Yarn Number	0.8	1.6	1.9	10.8	1.7	2.0	1.5	2.1	2.3	1.4	1.9	2.2
Count-Strength-Product	2966	2653	2433	2919	2868	2615	3614	3444	3402	3392	3292	3219
CV% of CSP	3.8	2.7	3.8	11.9	5.1	4.6	3.7	3.3	2.3	4.2	3.4	3.6
Elongation (%)	5.6	5.0	4.9	5.9	5.1	4.9	6.0	5.5	5.8	6.1	5.8	5.9
SINGLE-YARN STRENGTH TEST:												
Tenacity (mN/tex)	185	171	149	152	175	166	214	200	185	220	197	183
CV% of Tenacity	9.3	11.5	14.9	38.0	13.5	13.6	9.2	10.9	13.2	11.0	10.7	12.2
Force (N)	4.97	2.80	1.76	4.08	2.87	1.96	5.73	3.27	2.19	5.78	3.23	2.16
Elongation (%)	6.03	5.05	5.27	5.21	4.83	4.92	5.95	5.32	5.30	6.45	5.65	5.47
CV% of Elongation	13.0	19.4	11.4	26.7	13.6	20.2	10.6	11.7	9.3	10.5	11.7	9.9
Specific Work to Rupture (cm*N)	1.17	0.60	0.38	0.89	0.59	0.40	1.30	0.70	0.47	1.38	0.71	0.47
CV% of Specific Work to Rupture	14.0	19.6	20.4	48.1	18.7	22.2	13.1	15.3	17.6	14.7	15.7	16.3
USTER YARN EVENNESS TEST:												
Non-Uniformity (CV%)	15.2	18.8	20.9	14.1	17.9	20.3	12.7	16.7	17.6	13.7	16.3	18.4
Thick Places/1,000 yd	206	665	1096	66	452	863	13	248	369	35	211	483
Thin Places/1,000 yd	17	176	321	10	134	361	2	78	78	5	51	179
Neps/1,000 yd	48	221	485	13	110	276	9	80	90	14	73	110
YARN APPEARANCE INDEX	110	110	90	130	120	100	130	120	120	130	120	110

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Fiber Properties.

	PIMA S-6	
	FAR WEST	
	Arizona	Texas
CLASSIFICATION		
Grade Code	3	3
Staple (32nd. in.)	46	46
HVI - MCI		
UHM (in)	1.27	1.24
Uniformity Index (%)	85.0	84.4
Strength (g/tex)	39.0	35.3
Elongation (%)	6.8	7.3
Micronaire (rdg)	4.0	4.2
Trash (% area)	0.64	0.82
Trash Grade	-	-
Color Rd (%)	66.3	63.8
Color +b (units)	11.5	12.5
STELOMETER		
1/8" - Gage Strength (g/tex) *	35.7	35.7
Elongation (%)	6.9	7.5
SUTER-WEBB LENGTH ARRAY		
UQL (in)	1.51	1.43
Mean Length (in)	1.27	1.21
CV (%)	25.4	26.4
Short Fiber Content (%)	3.7	4.2
IIC/SHIRLEY FMT		
Fineness (mtex)	162.8	155.0
Maturity Ratio	0.972	0.975
S. A. NON-LINT CONTENT		
Visible Waste (%)	1.3	1.3
Total Waste (%)	2.2	1.8
NEPS OF RAW COTTON		
APHIS (neps/gram)	139	150
Raw Stock Neps (neps/100 sq. in.)	19	10
SUGAR CONTENT (%)	0.30	0.25

* Stelometer results were adjusted to Pressley level.

Fiber and Processing Tests of Leading Cotton Varieties - 1990 Cotton Crop - Yarn Properties for Combed, **RING SPUN YARN.**

	PIMA S-6					
	FAR WEST					
	Arizona			Texas		
	22s	36s	50s	22s	36s	50s
OPENING & CARDING WASTE (%):	3.66	3.66	3.66	4.13	4.13	4.13
COMBING WASTE(%):	22.78	22.78	22.78	20.27	20.27	20.27
YARN SKEIN STRENGTH TEST:						
Yarn Number (Ne)	22.3	34.9	49.7	22.3	35.9	49.9
CV% of Yarn Number	2.7	1.3	2.0	1.2	3.2	3.6
Count-Strength-Product	3999	3603	3587	3737	3414	3136
CV% of CSP	4.5	4.8	4.9	4.0	3.5	6.1
Elongation (%)	6.3	5.5	5.6	7.1	6.0	6.0
SINGLE-YARN STRENGTH TEST:						
Tenacity (mN/tex)	226	253	211	217	212	187
CV% of Tenacity	16.7	23.5	11.7	9.7	12.0	14.0
Force (N)	6.08	4.15	2.49	5.82	3.48	2.21
Elongation (%)	6.90	6.54	5.65	7.28	6.76	6.30
CV% of Elongation	8.9	9.1	12.9	9.7	13.6	13.0
Specific Work to Rupture (cm*N)	1.54	1.03	0.56	1.64	0.92	0.55
CV% of Specific Work to Rupture	20.2	26.9	17.9	14.1	18.0	19.7
USTER YARN EVENNESS TEST:						
Non-Uniformity (CV%)	12.2	14.7	16.7	12.8	15.7	17.6
Thick Places/1,000 yd	26	128	345	30	168	348
Thin Places/1,000 yd	1	14	35	3	30	102
Neps/1,000 yd	12	98	227	8	65	124
YARN APPEARANCE INDEX	120	120	110	120	120	110

Standard Machine Settings and Specifications for Processing Specified Groups of Cotton.

Process	U.S Upland	U.S Upland (Combed)	American Pima
Standard Atmospheric Conditions:			
Temperature (degrees F.)	75	75	75
Relative Humidity (pct.)	55	55	55
Sliver Lapper (Combed Only)			
Sliver Fed, 20 Each. (gr./yd.)	–	42	42
Lap Delivered (gr./yd.)	–	808	808
Speed (yd./min.)	–	46	46
Comber (Model 52)			
Sliver Delivered (gr./yd.)	–	50	40
Production Per Hour (lbs.)	–	22	22
Nominal Waste (pct.)	–	16 to 17	16 to 17
Breaker Drawing Frame (3 over 3)			
Sliver Fed (6 each) (gr. /yd.)	60	60	60
Sliver Delivered (gr. /yd.)	53	53	53
Roll Settings:			
First to Second (mm.)	36	36	36
Second to Third (mm.)	40	40	40
Speed (meters / min.)	350	250	250
Finisher Drawing Frame (3 over 4)			
Sliver Fed (8 Each) (gr. /yd.)	53	53	53
Sliver Delivered (gr. /yd.)	55	55	55
Roll Settings:			
First to Third (in.)	2–9/16	2–5/8	2–5/8
Third to Fourth (in.)	1–1/2	1–7/8	1–7/8
Speed (feet / min.)	509	509	509

Standard Machine Settings and Specifications for Processing Specified Groups of Cotton.

Process	U.S Upland	U.S Upland (Combed)	American Pima
Long Draft Roving (10 X 5, 1–Apron Type)			
Sliver Fed (gr. / yd.)	55	55	55
Roving Delivered (hank)	0.80, 1.00, 1.25	0.80, 1.00, 1.25	0.80, 1.00, 1.25
Roll Settings:			
First to Second (in.)	2–3/32	2–1/4	2–1/4
Second to Third (in.)	1–1/2	2	2
Spindle Speed (r.p.m.)	900	900	900
Long Draft Spinning (2–Apron Type)			
Twist Multiplier (no.)	4.00	4.00	4.00
Carded Yarns (no.)	22, 36, 50	22, 36, 50	22, 36, 50
Combed Yarns (no.)	–	22, 36, 50	22, 36, 50
Roll Settings:			
First to Second (in.)	1–11/16	1–11/16	1–11/16
Second to Third (in.)	1–13/16	2	2
Spindle Speed (r.p.m.)	11,000	11,000	11,000
Open–End Spinning			
Sliver Fed (gr. / yd.)	55	–	–
Twist Multiplier (no.)	4.80	–	–
Carded Yarns (no.)	10, 22, 30	–	–
Rotor Speed (r.p.m)	90,000	–	–
Rotor Type	T33	–	–
Opening Roll Speed (r.p.m)	7,500	–	–